ELECTRONIC PRINTING CALCULATOR

CALCULADORA IMPRESORA ELECTRONICA

CASIO FR-101

OPERATION MANUAL

MANUAL DE OPERACION

FC

英 西

English 1
Español 13

INTRODUCTION

Dear customer,
Thank you very much for purchasing this most advanced programmable printing calculator. This precise electronic unit with its Digitron visual display will solve and give a printed record of all types of business calculations with up to 10-digit accuracy. It can also store repeatable calculations with up to 32 steps. A real heavy duty, adding-machine-like, keyboard design enables you to perform quick blind-touch operations. To utilize its full features, no special training is required but we suggest you study this instruction manual to become familiar with its many capabilities. This manual has been written to assist you in understanding the various control keys and functions of the calculator through simple examples from basic operations to complex applications. Your nearby dealer will be pleased to offer any further assistance.

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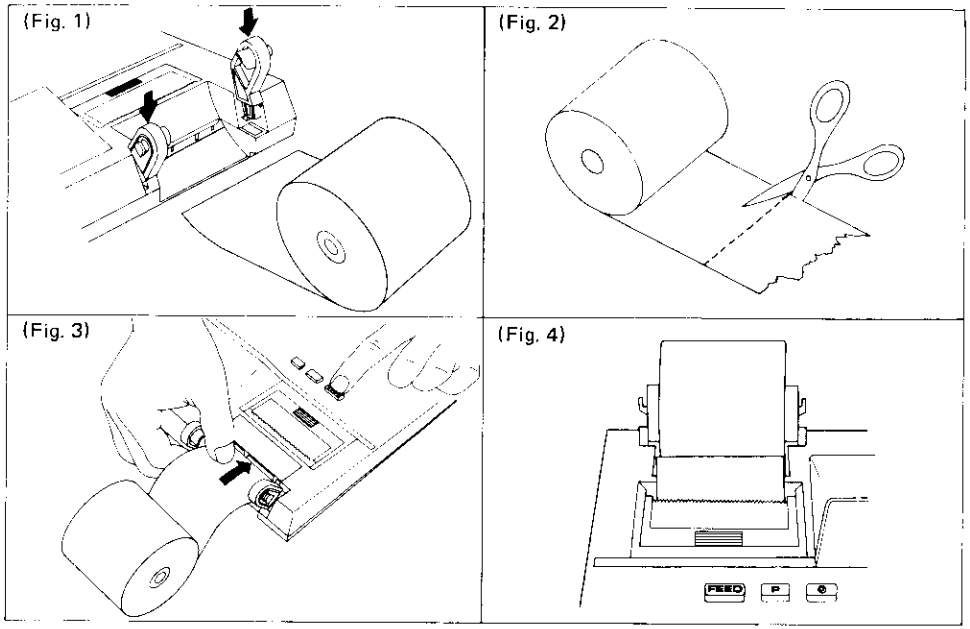
HOW TO LOAD THE ROLL-PAPER

1) Set the power switch to "ON".
2) Insert the roll holders into their mounting brackets (Fig. 1).
3) Cut across the paper to form a clean end (Fig. 2).
4) Insert the leading end of the roll-paper into the feed slot and keep pressing [FEED] key until the leading end comes out (Fig. 3).
5) Clip the roll-paper onto the spring arms (Fig. 4).

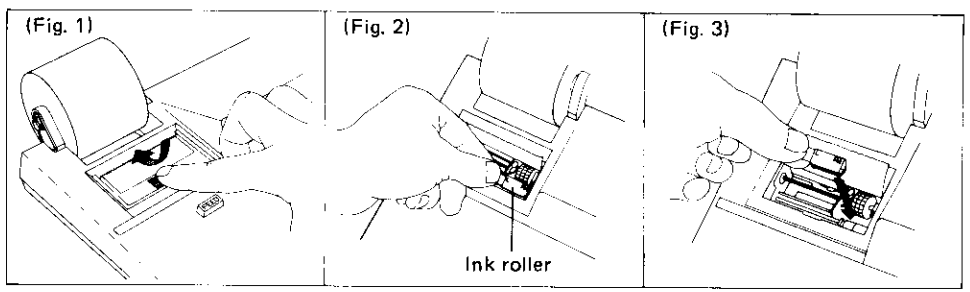
NOTE: The roll-paper should be advanced only by pressing the [FEED] key when loading or cutting it off with the paper cutter. Never pull out the roll-paper by hand as this may cause malfunctions.
It is recommended that ANTI-DUST type roll-paper be used to prevent illegible printing.



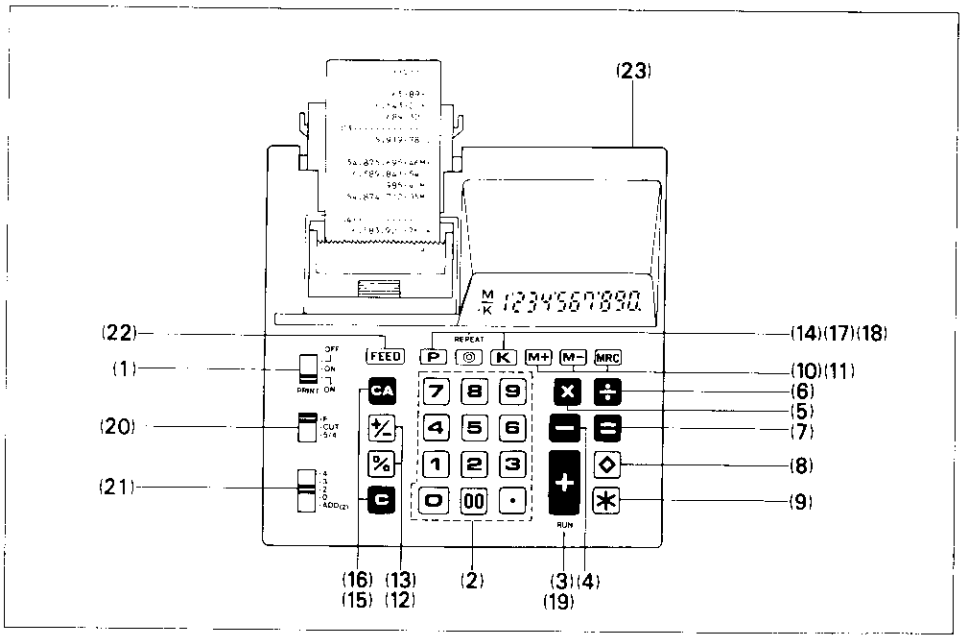
HOW TO CHANGE THE INK ROLLER

The printer in this model uses an ink roller.
If impressions are too light or illegible, replace the ink roller with a new one.
1) Open the printer cover (Fig. 1).
2) Remove the ink roller by pulling it up (Fig. 2).
3) Install a new ink roller (Fig. 3).
4) Make sure the ink roller is in place, and replace the cover.

NOTE: Never fill the ink roller with ink for pens, printing, etc. as it may run or clog the printer.



1/GENERAL GUIDE



(1) POWER SWITCH:

OFF: Power is turned off.
ON: Power is turned on.
Only the visual display is activated.
PRINT ON: Every keyboard entry, result and contents of the memory including all operation symbols are printed.
The item counter is activated and the number of items added/subtracted is printed out with the answer when the ◇ or ✱ key is pressed.

(2) 0 ~ 9, 00, ·, NUMERAL, TWO-ZERO and DECIMAL POINT KEY:

Enters numerals up to 10 digits. For decimal places, use the · key in logical sequence.

(3) + PLUS KEY: [Prints +]

Adds a number to the total register.

(4) − MINUS KEY: [Prints −]

Subtracts a number from the total register.

(5) × MULTIPLICATION KEY: [Prints x or Kx]

Enters multiplicand, or constant multiplier by pressing twice.

(6) ÷ DIVISION KEY: [Prints ÷ or K÷]

Enters dividend, or constant divisor by pressing twice.

(7) = EQUAL KEY: [Prints =]

Obtains answer in x/÷ operation.

(8) ◇ SUB-TOTAL KEY:

Prints a sub-total (intermediate result) in addition/subtraction. [Prints ◊]

(9) ✱ TOTAL KEY: [Prints ✱]

Prints a total in addition/subtraction.

(10) M+ (M−) MEMORY PLUS (MINUS) KEY: [Prints M+ (M−)]

Positively (negatively) accumulates an entry and/or result obtained into the memory.
Obtains product/quotient and automatically accumulates it into the memory positively (negatively).

(11) MRC MEMORY RECALL/MEMORY CLEAR KEY:

Recalls the contents of the memory onto the display. [Prints M]
This key also clears them when pressed twice successively. [Prints MC]

(12) % PERCENT KEY: [Prints %]

Performs percentage calculations — regular percentages, add-ons/discounts, ratios and increase/decrease calculations.

(13) +/− SIGN CHANGE KEY:

Changes the sign of the displayed number from plus to minus and vice versa.

(14) P PRINT KEY:

Prints the displayed number with the power switch at the "ON" position. [Prints P]
Prints an entry as dating and/or coding information. [Prints #]

(15) C CLEAR KEY:

Clears the latest entry for correction.
When pressed after the × (or ÷) key, it clears the x/÷ operation. [Prints 0·C]

(16) CA CLEAR ALL KEY: [Prints ··0··]

Clears the entire machine except the memory, and releases overflow or error check.
This key also makes program storing possible.

(17) REPEAT REPEAT KEY: [Prints ---------- R]

Memorizes repetitious formulas (program) so that only variables in a calculation need be entered.

(18) K CONSTANT ENTRY KEY:

Sets constants in program calculations.

(19) RUN RUN KEY:

Enters variables into a running program.

(20) DECIMAL MODE SELECTOR:

At "F" position, the decimal floats and underflow system works to protect the significant digits in all calculations.
At "CUT" position, the answer is automatically cut off at the decimal place indicated by the decimal place selector mentioned below.
At "5/4" position, the answer is rounded off in the similar way to the above.
• In "5/4" mode, an answer in x/÷ operation is printed out with symbol (5/4).

Note: Each entry is cut off or rounded off in addition/subtraction. However, the final result is cut-off or rounded off in x/÷ operation and entry and intermediate results are in the floating mode.

(21) DECIMAL PLACE SELECTOR:

Prefixes the decimal place at 0, 2, 3 or 4 position.
At "$ADD_{(2)}$" position, numbers with decimal places can be entered without pressing the · key in addition/subtraction and the decimal point is automatically displayed and/or printed out at 2 decimal position.

(22) FEED PAPER FEED KEY

Advances the paper tape.

(23) ADAPTOR JACK

2/NOTICE

2-1 CARE OF YOUR UNIT

* Since the unit contains precise electronic components, never attempt to disassemble it.
* Be careful not to drop the unit or handle it roughly.
* Avoid operating the keys roughly. Two or more keys should not be pressed simultaneously as this may damage the unit.
* Avoid using the unit in extreme temperatures (below 32°F or 0°C, or above 104°F or 40°C). Also protect the unit from extremely dusty or humid conditions.
* The unit should be operated only when the roll paper is set properly and keys are pressed firmly and separately.
* Never use volatile fluid such as lacquer thinner, benzine, etc. for cleaning the unit.

2-2 POWER SOURCE

This calculator operates by either dry batteries or AC (with the AC adaptor).

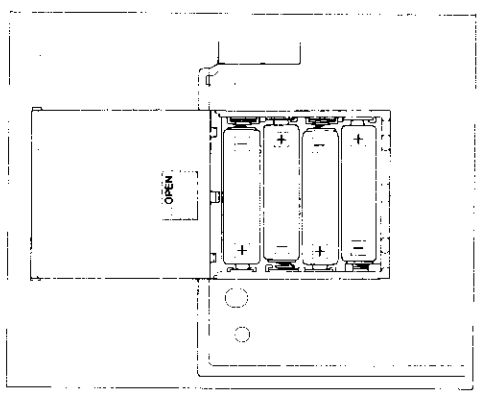
DRY BATTERY OPERATION

When battery power decreases, printing speed becomes slow. It is recommended that batteries be renewed.
Switch off the power before changing.

Replacement of batteries:

1) Slide open the battery compartment lid on the back of the unit.
2) Remove dead batteries.
3) Insert new batteries with the polarity as indicated.
4) Replace the cover.

* Be sure to replace all four batteries.
* Do not leave dead batteries in the battery compartment as they may cause malfunctions.
* It is recommended that batteries be replaced every 18 months to prevent the chance of malfunctions due to battery leakage.



AC OPERATION

Use only an adaptor with the same voltage rating (100, 117, 220 or 240V) as your power supply to prevent component damage.
Plug the AC adaptor into the AC outlet and the cord into the unit, this automatically cuts off battery power supply.

* WHERE USED FROM THE MAINS THIS CALCULATOR MUST ONLY BE USED WITH A CASIO MAINS ADAPTOR. THIS IS DUE TO THE RISK OF DAMAGE TO THE CALCULATOR SHOULD IT BE USED WITH A MAINS ADAPTOR OTHER THAN A CASIO MAINS ADAPTOR.

2-3 BUFFER REGISTER

This calculator is equipped with an Input Buffer Register which retains up to 7 key-in, whether numeral entries or function commands.
It enables very fast operation even while the previous function is still being processed.

2-4 AUTOMATIC COMMA MARKER FOR LARGE FIGURES

Comma markers given on the print-tape enable you to read figures more easily by grouping integers in three's starting from the decimal place.
Comma markers also mark off large figures in the visual display in groups of three from the decimal place.

2-5 OVERFLOW CHECK

Overflow is indicated by an "E" sign and stops further calculation.
To release the locked registers caused by the overflow check, press the CA key.

Overflow occurs:
1) When the integer part of an answer, whether intermediate or final, exceeds 10 digits.
2) When the integer part of an accumulated total in the memory exceeds 10 digits.

In the case of 1), however, it displays and/or prints the significant digits of the answer and the decimal point indicates that the true decimal position is 10 digits to the right.

EXAMPLE	OPERATION	PRINTING	READ-OUT
	"F"		
12345678×100000	12345678 ×	12,345,678. x	12345678.
=1234567800000	100000 =	100,000. =	123.456780E
		123.4567800 E	(Answer reads 1234567800000)
	(To start a new calculation) CA	..0..	0.

Memory protection:
Although overflow may occur, any total accumulated in the memory will be retained and recalled by the MRC key after pressing the CA key.

EXAMPLE	OPERATION	PRINTING		READ-OUT
	"F"			
9999999999+1	MRC	0.M		0.
=10000000000	MRC	MC		0.
	9999999999 M+	9,999,999,999. M+	M	9999999999.
	1 M+	1. M+	M	E.
		ME		
	CA	..0..	M	0.
	MRC	9,999,999,999. M	M	9999999999.

2-6 NON-ADD PRINTING

For dating and coding information, use the P key immediately after entering appropriate numerals and the number is printed out with symbol (#) without affecting any other registers.

EXAMPLE	OPERATION	PRINTING	READ-OUT
	"F"		
Date: May 17, 1983	1705.83 P	#1705.83.....	1705.83
Code No.: 10022	10022 P	#10022.....	10022.

P key prints out only a displayed number with the power switch at "ON" without affecting any other operations.

EXAMPLE	OPERATION	PRINTING	READ-OUT
	"ON" "F"		
123	CA		0.
456	123 +		123.
-389	456 +		579.
260	389 -		190.
450	P	190.P	190.
	260 +		450.
	P	450.P	450.

3/CORRECTION

1. Use the C key to clear mis-entered number and re-enter correctly.
2. When the wrong entry and/or command are found after pressing the command key, use the CA key and start from the beginning.
   However, the correction of commands between x and ÷ is made by successive depression of the proper command key.

EXAMPLE	OPERATION		PRINTING	READ-OUT
	"F"			
123×456×78		123 ×	123• x	123.
=4374864	(Mistake)	447	456• x	447.
	(To correct)	C	78• =	0.
		456 ×	4,374,864•	56088.
		78 =		4374864.
	"F"			
345		CA	••0••	0.
678				
−901		345 +	345• +	345.
747		678 +	678• +	1023.
869	(Mistake)	9 00 −	900• −	123.
	(To correct)	+	900• +	1023.
		901 −	901• −	122.
		747 +	747• +	869.
			06••••••••••••	
		✱	869• ✱	869.

3. While obtaining an accumulated total using the memory:
   a) When a mis-operation is found before accumulating the result into the memory, press the CA key to clear the working registers and re-operate correctly.
   b) When a mis-operation is found after having accumulated the result into the memory, press M+ or M− key to add or subtract the same number to or from the memory and re-operate correctly.

4/PROGRAM FUNCTION

* This calculator has a program memory of 32 steps. With the program function, complex repeated calculations are no longer time-sonsuming chores.
  Prior to storing a program, press CA to designate the program calculation mode, and after storing press REPEAT. Then you can perform repeated calculations simply by entering variables.

Example 1: Pro-rating

Division	Sales amount	%
A	$225	15
B	375	25
C	135	9
D	510	34
E	255	17
Total	$1,500	100

	OPERATION	PRINTING	READ-OUT
			Indicates variables of repeat calculations can be entered.
(Storing program) "F"			
	CA	••0••	0.
	225 +	225• ÷	225.
(Entry of constant "1500")	K 15 00 %	1,500• %	15.
		15• +	
(Termination of storing)	REPEAT	----------R	0.
(Execution of program)	375 RUN	375• ÷	Total 8 steps
		1,500• %	
		25• +	
		----------R	25.
	135 RUN	135• ÷	
		1,500• %	
		9• +	
		----------R	9.
	510 RUN	510• ÷	
		1,500• %	
		34• +	
		----------R	34.
	255 RUN	255• ÷	
		1,500• %	
		17• +	
		----------R	17.
(Total)	15 00 RUN	1,500• ÷	
		1,500• %	
		100• +	
		----------R	100.

* To change from the program mode, press [CA] and the stored program will be cleared.

• Program steps

* When a program reaches the 32nd step, " • " will appear indicating programming has reached its limit. In this case subsequent calculations can be performed, but they will not be stored as a program.
* Program step counting
  1. A variable is counted as one program step.
  2. An instruction key is counted as one step.
  3. A press of the [K] key is counted as two steps.
  4. Each digit of a constant is counted as one step.

Example:

Variables — Constant

1	2	3	×	4	÷	5	6	×	K	8	5	0	=
No. of steps	1		1		1			1	2	1	1	1	1

Total: 10 steps

Example 2: Calculate the selling prices of items whose purchasing prices are, respectively, $500, $600 and $700 when the profit rate to each purchasing price is 40%.
Also convert the unit from dollars to marks. (Assuming $1.00 = DM2.35)

OPERATION	PRINTING	READ-OUT
"5/4", Dec. 2		
[CA]	••0••	0.
5 [00] ×	500• ×	500.
K 40 %	40•%%	
	200•00+	200.00
+	700•00+%	700.00
÷	700• ÷	700.
K 2 ÷ 35 =	2•35%=	
	297•87	297.87
REPEAT	---------- R	0.
6 [00] RUN	600• ×	
	40•%%	
	240•00+	
	840•00+%	
	840• ÷	
	2•35%=	
	357•45	
	---------- R	357.45

7 [00] RUN	700• ×	
	40•%%	
	280•00+	
	980•00+%	
	980• ÷	
	2•35%=	
	417•02	
	---------- R	417.02

Example 3: Perform example 2 with the power switch at the "ON" position to obtain print-out of results only.

OPERATION	PRINTING	READ-OUT
"ON", "5/4", Dec. 2		
[CA]		0.
5 [00] ×		500.
K 40 %		200.00
+		700.00
P	700•00 P	700.00
+		700.
K 2 ÷ 35 =		297.87
P	297•87 P	297.87
REPEAT	---------- R	0.
6 [00] RUN	840•00 P	
	357•45 P	
	---------- R	357.45
7 [00] RUN	980•00 P	
	417•02 P	
	---------- R	417.02

Example 4: Accounts

Article	Quantity	Unit price	Amount
A	250	$56.00	$14,000.00
B	380	96.25	36,575.00
C	420	73.00	30,660.00
D	685	28.50	19,522.50
Total	1,735		$100,757.50

OPERATION	PRINTING		READ-OUT
"5/4", Dec. 2			
[MRC]	0•M		0.
[MRC]	MC		0.
[CA]	••0••		0.
250 [M+]	250•00 M+	M	250.00
[×]	250• ×	M	250.
56 [+]	56• %=		
	14,000•00 +	M	14000.00
[REPEAT]	----------R	M '	0.
380 [RUN]	380•00 M+		
	380• ×	M	380.
96 [÷] 25 [RUN]	96•25 %=		
	36,575•00 +		
	----------R	M '	36575.00
420 [RUN]	420•00 M+		
	420• ×	M	420.
73 [RUN]	73• %=		
	30,660•00 +		
	----------R	M '	30660.00
685 [RUN]	685•00 M+		
	685• ×	M	685.
28 [÷] 5 [RUN]	28•5 %=		
	19,522•50 +		
	----------R	M '	19522.50
[✱]	04••••••••••••		
	100,757•50 *	M '	100757.50
[CA]	••0••	M	0.
[MRC]	1,735•00 M	M	1735.00

5/SPECIFICATIONS

Abilities:
4 basic functions, multiplication/division with a constant, squares and powers, reciprocals, sub-total and total, addition/subtraction with item counts, ADD mode calculations, addition/subtraction by repeat, memory calculations, percentage calculations and various kinds of practical calculations.

Programmable features: Up to 32 steps ("Learn" program).

Capacity:
- Display/entry . . . . . 10 digits
- Printing: Figures . . . . . 10 digits
  - Symbols . . . . . 2 digits
  - Decimal point . . . . . 1 digit
  - Minus sign . . . . . 1 digit
- Accumulation into the memory . . . . . 10 digits
- Item count . . . . . Up to 99

Decimal point: Full floating and fixed (0, 2, 3, or 4) with round-off or cut-off.

ADD mode: Decimal point is fixed at 2 position.

Negative number: Printed and/or displayed by minus (–) sign.

Overflow check: Indicated by printing and/or displaying "E" sign, locking the calculator.

Display: Digitron tube panel.

Components: One chip LSI

Ambient temperature range: 0°C – 40°C (32°F – 104°F)

Power consumption: 2.6W

Power source:
AC: 100, 117, 220 or 240 V (±10 V) 50/60 Hz, with an applicable AC adaptor.
DC: Four AA size manganese dry batteries (UM-3) operate the display for approximately 7.5 hours continuously (approx. 10.5 hours on type SUM-3), or the display and printer for approximately 2100 lines of "55555" continuously (approx. 3500 lines on type SUM-3).

Dimensions: 56mmH x 202mmW x 216mmD
(2-1/4"H x 8"W x 8-1/2"D)

Weight: 616 g (1.4 lb)

* This equipment complies with the requirements in CISPR Pub. 14.

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

..... reorient the receiving antenna
..... relocate the computer with respect to the receiver
..... move the computer away from the receiver
..... plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems" This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

SOME SUGGESTIONS ON THE CARE OF YOUR NEW ELECTRONIC PRINTING CALCULATOR

Your new electronic printing calculator is a durable, precision-made instrument. To help ensure this we recommend placing your calculator on a level surface not subject to constant sunlight. To prevent malfunctions to be caused by electric noise, AC power should not be taken from the common outlet with other electric appliances, such as electric typewriter and drill, etc. Do not cover or place paper on the machine while it is in operation. Spilled coffee or other liquids can cause damage to the circuitry, so please take care when placing beverages near your machine.